

# Chamodh Nethsara

Engineering Undergraduate

GitHub: [github.com/chamodhk](https://github.com/chamodhk)

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## PROFESSIONAL PROFILE

A Computer Science and Engineering undergraduate at the University of Moratuwa with hands-on experience in software development, backend technologies, and collaborative project work. Experienced with Python, C/C++, Java, Git, Linux, and Docker, with a strong interest in software engineering and building reliable, well-designed systems. Motivated by solving technical problems, learning through practical projects, and contributing effectively within collaborative, agile development teams.

## EDUCATION

- University of Moratuwa** Moratuwa, Sri Lanka  
*B.Sc. Eng. (Hons) in Computer Science and Engineering* 2024 – Present  
Expected Graduation: 2028  
Current CGPA: 3.56
- Bandaranayake College** Gampaha, Sri Lanka  
*G.C.E. Advanced Level, Physical Science Stream - 3 A's - Z-score: 2.3214* 2019 – 2022
- Sri Lanka Institute of Marketing** Sri Lanka  
*Professional Certificate in Marketing* 2019 – 2022
- Henegama Central College** Henegama, Sri Lanka  
*G.C.E. Ordinary Level - 9A's* 2014 – 2019

## CERTIFICATIONS

- IBM DevOps and Software Engineering Professional Certificate** Coursera  
*Issued by IBM* Mar 2026  
Completed IBM's 15-course Professional Certificate covering DevOps, cloud computing, Agile and Scrum, software engineering, Git and GitHub, Linux and shell scripting, Python and Flask, Docker, Kubernetes, OpenShift, microservices, CI/CD, application security, testing, monitoring, and observability. Completed practical labs, projects, and a DevOps capstone applying cloud-native development, containerization, microservices, automated CI/CD workflows, testing, deployment, and DevOps practices.

## SKILLS SUMMARY

**Programming Languages:** Python, C, C++, Java, SQL, JavaScript, Bash, VHDL, Gherkin  
**Web Development:** Django, Flask, FastAPI, React, Tailwind CSS, JavaScript, CSS, HTML  
**Databases:** PostgreSQL, MySQL, SQLite, Redis  
**Tools:** Docker, Git, GitHub, OpenShift, Istio, Grafana, Tekton, Apache Flink, Kubernetes  
**Embedded Systems:** Arduino, Raspberry Pi  
**Languages:** English – professional working proficiency; Sinhala – native proficiency

## PROJECTS

- OnTime – Real-Time Public Transport Tracking Platform** University Project  
*FastAPI, PostgreSQL/PostGIS, Kafka, MQTT, Redis, Docker, Kubernetes*
  - \* **GitHub:** [github.com/OnTime-SE-G/ontime-g2](https://github.com/OnTime-SE-G/ontime-g2)
  - \* **Description:** Contributed as a Backend and DevOps developer to a team-built, event-driven public transport tracking platform, working across route and fleet-management microservices, PostGIS-backed geospatial data ingestion, GPS telemetry simulation using MQTT and Kafka, Redis-backed WebSocket updates, authentication, API gateway integration, automated testing, CI/CD, container publishing, security, and Kubernetes deployment.
- Kandypack – Logistics Management System** University Project  
*FastAPI, MySQL, React, TypeScript, ReportLab, Recharts*
  - \* **GitHub:** <https://github.com/Ravindu-Pathirana/Kandypack-Logistics-Project>
  - \* **Description:** Contributed as a full-stack developer to a rail-and-road logistics management system, implementing order allocation across trains and destination stores with quantity and capacity validation, train-arrival and store-inventory workflows, and delivery rostering based on routes, available trucks, and eligible staff. Integrated FastAPI services with MySQL stored procedures for order processing, employee selection, train arrivals, and delivery assignments, while contributing authenticated store-specific order management, automated status updates, business reporting, and interactive dashboards.

## Nano Processor

University Project

*VHDL, FPGA, Xilinx Vivado*

- \* **GitHub:** [github.com/chamodhk/nano\\_processor\\_project](https://github.com/chamodhk/nano_processor_project)
- \* **Description:** Designed and implemented a four-bit nano processor using VHDL, integrating components such as registers, an arithmetic and logic unit, a program counter, instruction decoding, and program memory.

## USB MIDI Keyboard

Personal Project

*C, Raspberry Pi Pico, TinyUSB, USB MIDI*

- \* **GitHub:** [github.com/chamodhk/midi\\_keyboard](https://github.com/chamodhk/midi_keyboard)
- \* **Description:** Converted a 61-key digital keyboard into a USB MIDI controller using a Raspberry Pi Pico. Reverse-engineered and scanned its 11×6 key matrix, implemented key-state detection and MIDI Note On/Off messaging in C, and configured TinyUSB USB descriptors for plug-and-play MIDI communication.

## Django Portfolio CMS

Personal Project

*Django, Tailwind CSS, AlpineJs, Docker*

- \* **GitHub:** [github.com/chamodhk/django-portfolio-cms](https://github.com/chamodhk/django-portfolio-cms)
- \* **Description:** Built a Django-based portfolio and blogging CMS with Django Admin management for articles, projects, skills, certificates, profile information, media, and resume content. Implemented rich-text publishing, search, tag filtering, pagination, automatic slugs, view tracking, and configurable SEO metadata, and containerized the application for deployment using Docker Compose, Gunicorn, and Caddy with automated TLS, persistent storage, and scheduled backups.

## MovieNetR – Movie Recommendation Network

Personal Project

*Python, GLiNER, NetworkX, SQLAlchemy, SQLite, RapidFuzz, Sigma.js*

- \* **GitHub:** [github.com/chamodhk/MovieNetR](https://github.com/chamodhk/MovieNetR)
- \* **Description:** Built a movie recommendation network from Reddit discussions and IMDb data, using GLiNER-based zero-shot named entity recognition to extract movie mentions and RapidFuzz to match them against canonical IMDb titles. Constructed a weighted co-recommendation graph with NetworkX and persisted processed data using SQLAlchemy and SQLite, then developed an interactive Sigma.js explorer for searching films, navigating recommendation neighborhoods, and revealing clusters of related movies and bridge titles connecting different genres.

## MediScript – Ambient Clinical Scribing Platform

Team Project

*FastAPI, SQLAlchemy, NLLB, Twilio*

- \* **GitHub:** <https://github.com/chamodhk/MediScript>
- \* **Description:** Contributed to the FastAPI backend and service architecture of a team-developed ambient clinical scribing prototype, implementing multilingual translation using NLLB and Twilio WhatsApp workflows for consultation summaries, patient reminders, and appointment channeling. Developed database-backed reminder scheduling and automated Windows installation, database migrations, and application setup to simplify deployment and configuration.

## VOLUNTEERING & LEADERSHIP

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| <b>Technical Writer</b> , Rotaract Club of University of Moratuwa | Dec 2025 – Present |
| <b>Content Writer</b> , Rotaract Club of University of Moratuwa   | Jan 2026 – Present |
| <b>Marketing and PR Team Member</b> , AIESEC in Sri Lanka         | 2024 – Aug 2024    |

## HONOURS & AWARDS

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| <b>Elite 10</b> , Hemas AITHON 2026, Hemas Holdings                                       | 2026     |
| <b>Finalist</b> , UoJ Coders v4.0, University of Jaffna – Competitive Programming Contest | Aug 2025 |

## ADDITIONAL INFORMATION

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| <b>Codeforces – Competitive Programming in C++</b> , <a href="https://codeforces.com/profile/iamchamodh">codeforces.com/profile/iamchamodh</a> | Rating: 974 |
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## REFERENCES

### Prof. Dulani Meedeniya

Professor  
Department of Computer Science & Engineering  
University of Moratuwa  
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### Dr. Adeesha Wijayasiri

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